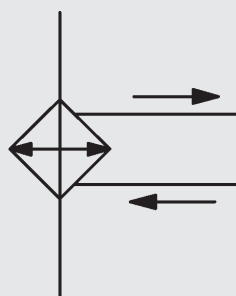




Gasketed Plate Heat Exchangers Hxxx-LIQUID

Symbol



General

With plate heat exchangers, the heat from the fluid being cooled is transferred to a cooling fluid. The advantage is that they can maintain the fluid temperature at a very low and stable level – depending on the temperature of coolant.

Gasketed plate heat exchangers are particularly suitable for large flows and high cooling capacities and are therefore a useful supplement to the brazed range.

Product Features

Gasketed plate heat exchangers consist of a stack of individually stamped heat transfer plates and gaskets. The plate stack is clamped using bolts in a frame consisting of a fixed cover and a moveable cover. The advantage is that the plate heat exchanger can also be dismantled for cleaning and maintenance. Furthermore it is possible to add more plates at a later date to achieve a higher capacity.

There are several sizes with varying numbers of plates and different stamp designs available to cover the capacity range. In this way they can cater for heavily contaminated or high viscosity fluids, or even if the temperature difference between the hot and cold medium is only minimal.

Operating Data

Plate material	Stainless steel 1.4401 (AISI 316), 1.4306 (AISI 304) SMO Titanium
Plate thickness	0.4 – 0.6 mm
Seals	NBR (HT) EPDM Viton
Connections	Threaded pipe, male Flange (up to DN300) Note: The connection interface can only be altered before manufacture.
Paint colour	RAL 5010 Corrosion class: C2L Other paint finishes on request
Media	Hydraulic oil, lubrication oil, rolling oil, engine oil HFC, HFA, HFD, operating fluids water, water-glycol, seawater (with titanium plates) Limited possibility: steam applications
Operating temperature	up to 140 °C
Pressure ranges	10 bar, 16 bar, 25 bar Note: Pressure surges must be avoided
Flow rate	up to 2,000 m³/h
Cooling capacity	up to 30,000 kW (dependent on the inlet temperature of the media and the flow rate)
Contamination	The level of particles in suspension should be less than 10 mg/l Particle size: <0.6 mm (spherical); thread-like particles cause a rapid rise in pressure drop.
Water quality	See table on water quality
Options	Safety heat exchanger Dual unit with change-over valve Insulation

Depending on the individual situation, special models using higher grade materials are available, e.g. titanium plates are used for seawater applications.

Application Field

Cooling circuits in counterflow which are operated using water, coolant, HFC operating fluids or oil. For applications using other fluids please contact the specialist department.

Typical applications are:

- Hydraulic systems
- Presses
- Lubrication systems
- Test rigs
- Motors / engines

Model Type

Size _____ **Modification code** _____ **Frame type** _____ **Pressure range** _____ **Number of plates** _____ **Plate type** _____ **Fluid** _____

H-38 A - IG 10 - 12 - TKT33 - LIQUID

Water Quality

Substances dissolved in water	Concentration of substance in mg/l	Notes below relate to 1.4401
Aluminium (Al) – in solution	<0.2	A
	>0.2	A
Ammonia NH ₃	<2	A
	2 – 20	A
	>20	A
Chloride Cl ⁻ (max. +60 °C)	<250	A
	>250	B
Electrical conductivity	<10 µ S/cm	A
	10 – 500 µ S/cm	A
	>500 µ S/cm	A
Iron Fe – in solution	<0.2	A
	>0.2	A
Free aggressive carbonic acid CO ₂	<5	A
	5 – 20	A
	>20	A
Total hardness	4.0 – 8.5 °dH	A
Glycol percentage	<20 %	A
	20 – 50 %	A
	>50 %	A
HCO ₃ ⁻ SO ₄ ⁻²	<1.0	A
	>1.0	A
Hydrogen carbonate HCO ₃ ⁻	<70	A
	70 – 300	A
	>300	A
Manganese Mn – in solution	<0.1	A
	>0.1	A
Nitrate – in solution NO ₃	<100	A
	>100	A
pH value	<6	B
	6.0 – 7.5	A / B
	7.5 – 9.0	A
	>9	A
Sulphate SO ₄ ⁻²	<70	A
	70 – 300	A
	>300	C
Sulphite SO ₃ / Free chlorine gas Cl ₂	<1	A
	1 – 5	A
	>5	A / B
Hydrogen sulphide (H ₂ S)	<0.05	A
	>0.05	A

A = under normal circumstances, good resistance
 B = danger of corrosion, especially if several B substances are present
 C = not suitable

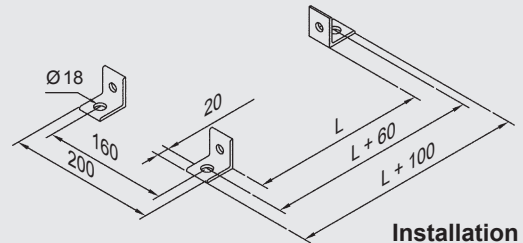
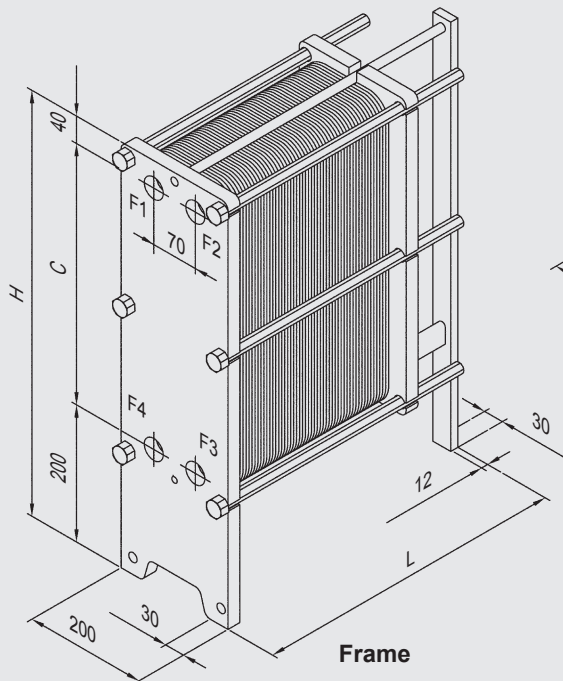
Chloride content	Max. wall surface temperature			
	60 °C	80 °C	120 °C	130 °C
≤10 ppm	W 1.4301	W 1.4301	W 1.4301	W 1.4401
≤25 ppm	W 1.4301	W 1.4301	W 1.4401	W 1.4401
≤50 ppm	W 1.4301	W 1.4401	W 1.4401	Ti
≤80 ppm	W 1.4401	W 1.4401	W 1.4401	Ti
≤150 ppm	W 1.4401	W 1.4401	Ti	Ti
≤300 ppm	W 1.4401	Ti	Ti	Ti
>300 ppm	Ti	Ti	Ti	Ti

Note: This table is not exhaustive and serves only as a guide.

Dimensions

The dimensions can vary according to the frame type. Gasketed plate heat exchangers are calculated individually according to the application. You will find the relevant frame length L on the data sheet for your calculation.

H8 / H16

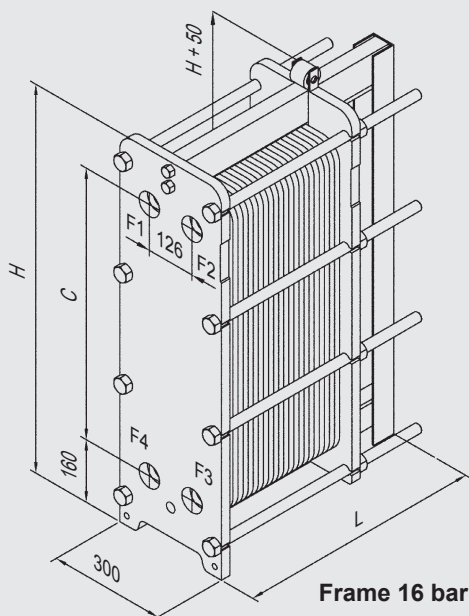


Installation

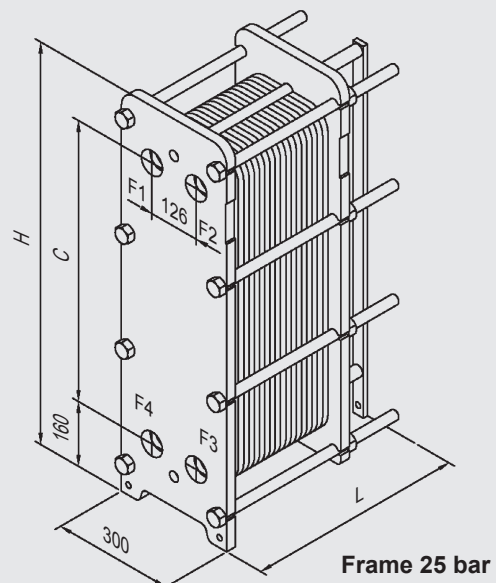
Pressure ranges: 16 bar, 25 bar

Size	Dimension H	Dimension C
H8	621 mm	381 mm
H16	896 mm	656 mm

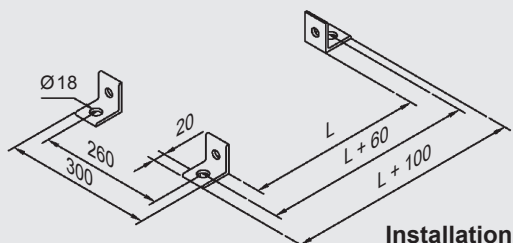
H14 / H28 / H40



Frame 16 bar



Frame 25 bar

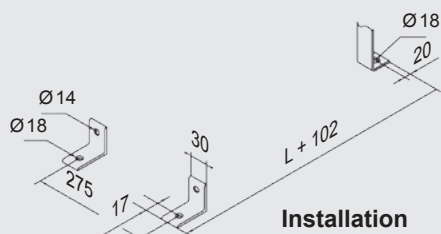
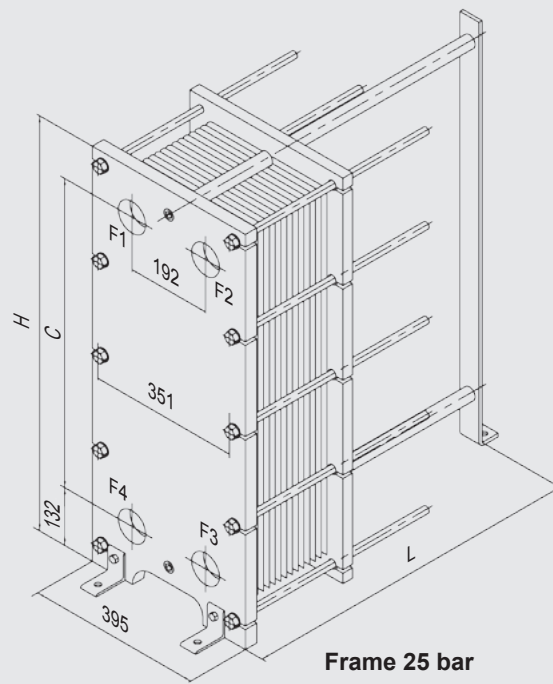
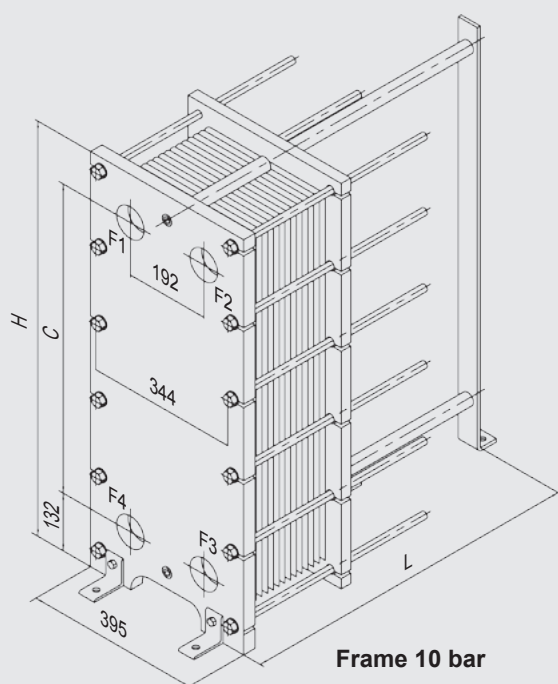


Installation

Pressure ranges: 16 bar, 25 bar

Size	Dimension H	Dimension C
H14	694 mm	394 mm
H28	994 mm	694 mm
H40	1,194 mm	894 mm

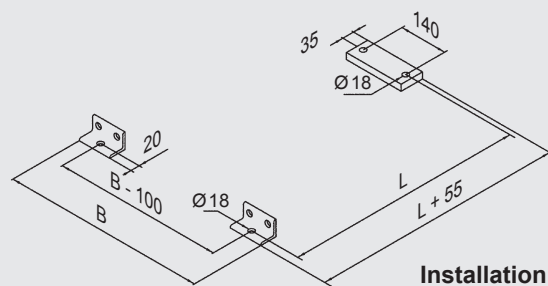
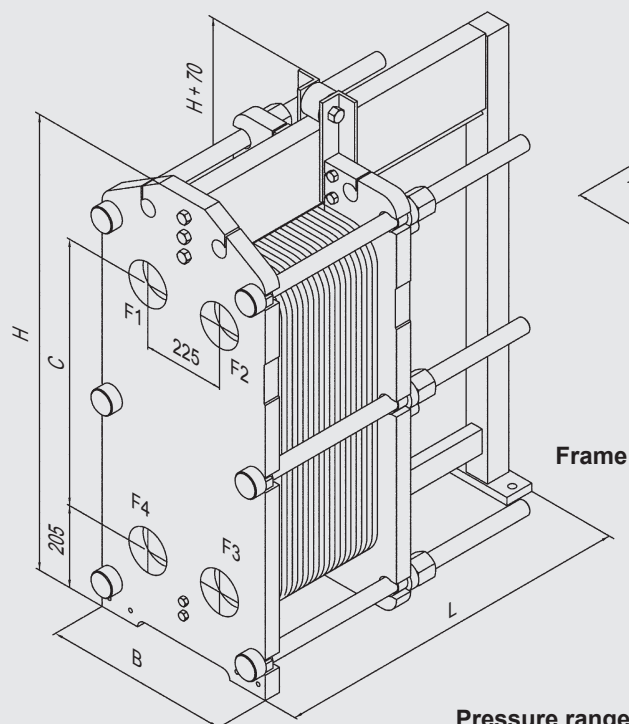
H18 / H38 / H62



Pressure ranges: 10 bar, 16 bar

Size	Dimension H	Dimension C
H18	626 mm	380 mm
H38	946 mm	700 mm
H62	1,296 mm	1,050 mm

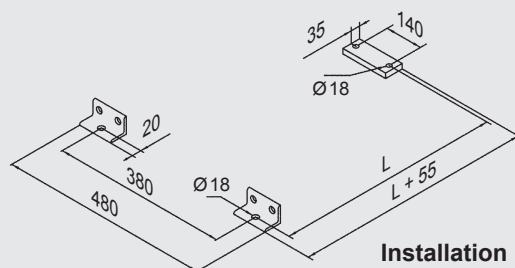
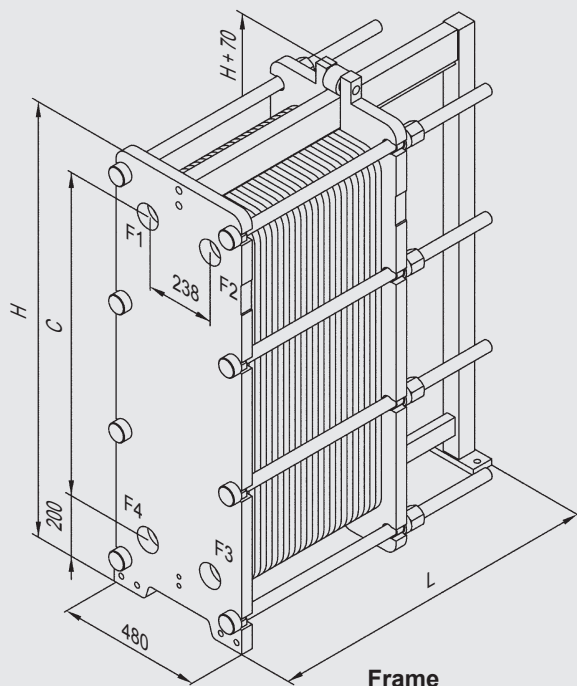
H42 / H44 / H94 / H128



Pressure ranges: 10 bar, 16 bar, 25 bar

Size	Dimension H	Dimension C	Dimension B
H42 / H44	1,238 mm	719 mm	495 mm
H94	1,884 mm	1,365 mm	480 mm
H128	2,291 mm	1,771 mm	480 mm

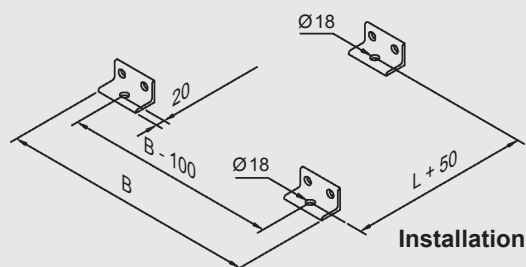
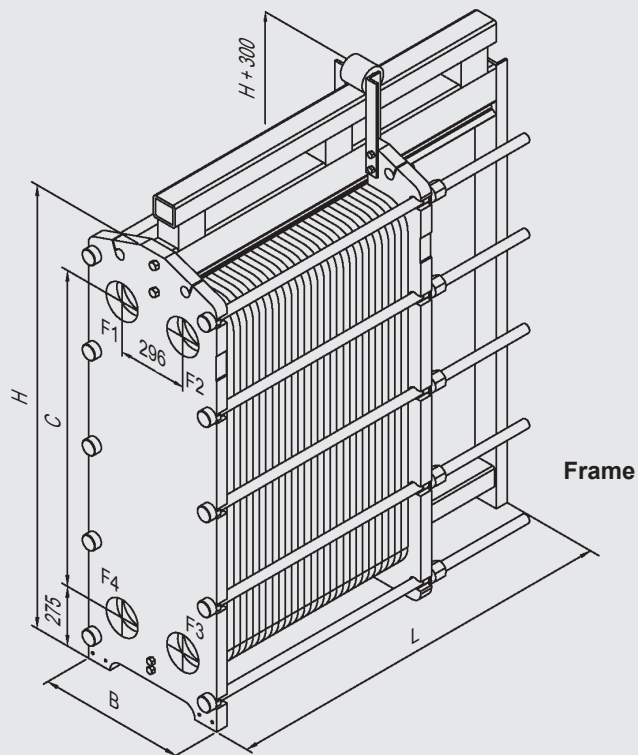
H74 / H102



Pressure ranges: 10 bar, 16 bar

Size	Dimension H	Dimension C
H74	1,441 mm	1,070 mm
H102	1,855 mm	1,484 mm

H82 / H84 / H124 / H172 / H220



Pressure ranges: 10 bar, 16 bar, 25 bar

Size	Dimension H	Dimension C	Dimension B 10, 16 bar	Dimension B 25 bar
H82 / H84	1,450 mm	890 mm	608 mm	640 mm
H124	1,852 mm	1,292 mm	608 mm	640 mm
H172	2,254 mm	1,694 mm	608 mm	640 mm
H220	2,654 mm	2,094 mm	608 mm	640 mm

Note

The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.



HYDAC COOLING GMBH

INTERNATIONAL

Industriegebiet
66280 Sulzbach/Saar
Germany

Tel.: +49 6897 509-01
Fax: +49 6897 509-454

E-mail: cooling@hydac.com
Internet: www.hydac.com